

5. (new) An N-acetyl-L-cysteine cell culture medium (NAC medium) comprising:
- a serum-free cell culture medium;
 - cumene hydroperoxide; and
 - N-acetyl-L-cysteine (NAC).
6. (new) The N-acetyl-L-cysteine cell culture medium of claim 5, wherein said cumene hydroperoxide is present in a concentration of about 5 μ M to about 500 μ M.
7. (new) The N-acetyl-L-cysteine cell culture medium of claim 5, further comprising glucose.
8. (new) The N-acetyl-L-cysteine cell culture medium of claim 7, further comprising a biologically utilizable form of pantothenic acid or choline.
9. (new) The N-acetyl-L-cysteine cell culture medium of claim 8, further comprising at least one inorganic ion in a biologically utilizable form, wherein said ion is chloride ion, phosphate ion, calcium ion, magnesium ion, potassium ion, sodium ion, or iron ion.
10. (new) The N-acetyl-L-cysteine cell culture medium of claim 9, further comprising deionized water.
11. (new) The N-acetyl-L-cysteine cell culture medium of claim 10, further comprising a mitogen wherein said mitogen stimulates lymphocytes to grow.
12. (new) The N-acetyl-L-cysteine cell culture medium of claim 11, further comprising at least one of a supplemental nutrient in a biological utilizable form wherein said supplemental nutrient is:
- a) an L-amino acid;
 - b) a vitamin; or
 - c) at least one of pyruvate, adenine or inositol.
13. (new) The N-acetyl-L-cysteine cell culture medium of claim 12, wherein said cumene hydroperoxide is present in a concentration of about 5 μ M to about 500 μ M.
14. (new) The N-acetyl-L-cysteine cell culture medium of claim 12, wherein said L-amino acid is selected from the group consisting of L-arginine, L-cysteine, L-glutamine, glycine, L-histidine, L-isoleucine, L-leucine, L-lysine, L-methionine, L-phenylalanine, L-serine, L-threonine, L-tryptophan, L-tyrosine, and L-valine.
15. (new) The N-acetyl-L-cysteine cell culture medium of claim 12, wherein said vitamin is selected from the group consisting of biotin, folic acid, nicotinamide, nicotinic acid, riboflavin, thiamin, vitamin B₆, and vitamin B₁₂.

16. (new) The N-acetyl-L-cysteine cell culture medium of claim 12, wherein at least one of said pyruvate, said adenine or said inositol supplements said cell culture medium at concentrations eliciting approximately a maximal growth response.